

To our customers,

Old Company Name in Catalogs and Other Documents

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Renesas Electronics website: <http://www.renesas.com>

April 1st, 2010
Renesas Electronics Corporation

Issued by: Renesas Electronics Corporation (<http://www.renesas.com>)

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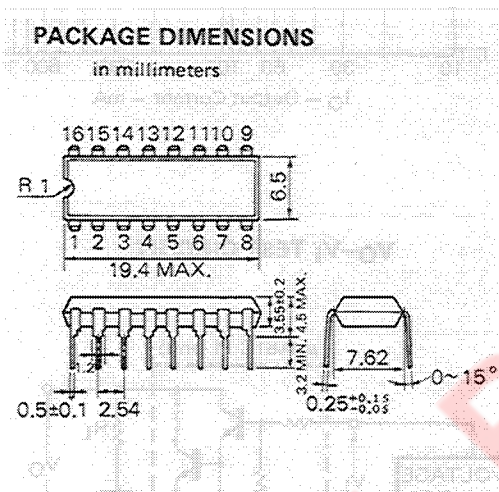
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LED, LAMP DRIVER
NPN SILICON EPITAXIAL DARLINGTON TRANSISTOR ARRAY

DESCRIPTION

The μPA81C is a monolithic array of seven darlington transistors. This device is especially suited for driving LED, lamps and printer hummers with MOS output signal.



FEATURES

- High DC current gain.
- High output drive current.
- Package is 16 pin plastic DIP (Dual In-Line Package).

ABSOLUTE MAXIMUM RATINGS

Maximum Voltages and Currents ($T_a=25^\circ\text{C}$)

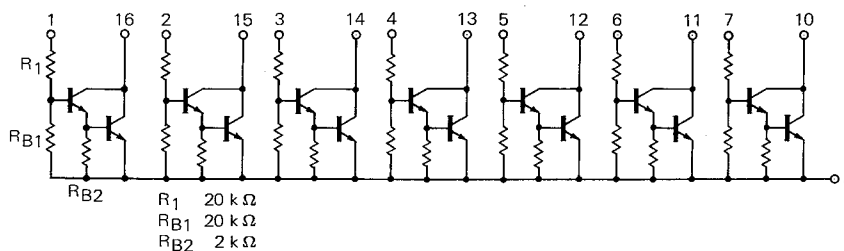
Output Voltage	V_O	45	V
Input Voltage	V_I	45	V
Peak Output Current	I_O^*	400	mA/unit
Maximum Power Dissipation			
Total Power Dissipation	P_d	800	mW/package
Maximum Temperature			
Operating Temperature	T_{opt}	-25 to +75	$^\circ\text{C}$
Storage Temperature	T_{stg}	-55 to +125	$^\circ\text{C}$

* $PW=10\text{ ms}$, duty cycle $\leq 10\%$ (All units turned on)

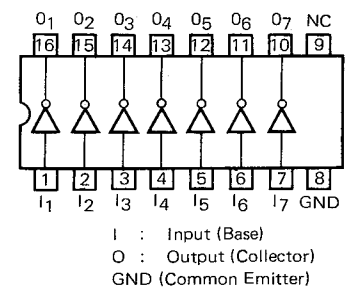
ELECTRICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

CHARACTERISTICS	SYMBOL	MIN.	TYP.	MAX.	UNIT	TEST CONDITIONS
Output Leakage Current	I_L			10	μA	$V_{CE}=40\text{ V}$
DC Current Gain	h_{FE}	1000	2500			$V_{CE}=2.5\text{ V}$, $I_O=200\text{ mA}$
Collector Saturation Voltage	$V_{CE(sat)1}$		0.82	1.2	V	$V_I=13\text{ V}$, $I_O=100\text{ mA}$
Collector Saturation Voltage	$V_{CE(sat)2}$		0.95	1.4	V	$V_I=13\text{ V}$, $I_O=200\text{ mA}$
Collector Saturation Voltage	$V_{CE(sat)3}$		1.2	2.2	V	$V_I=13\text{ V}$, $I_O=400\text{ mA}$
Input Current	I_I			1.5	mA	$V_I=17\text{ V}$, $I_O=0$

EQUIVALENT CIRCUIT

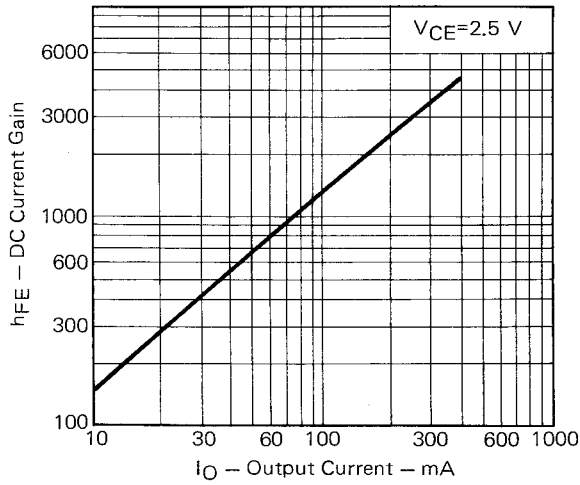


CONNECTION DIAGRAM (Top View)

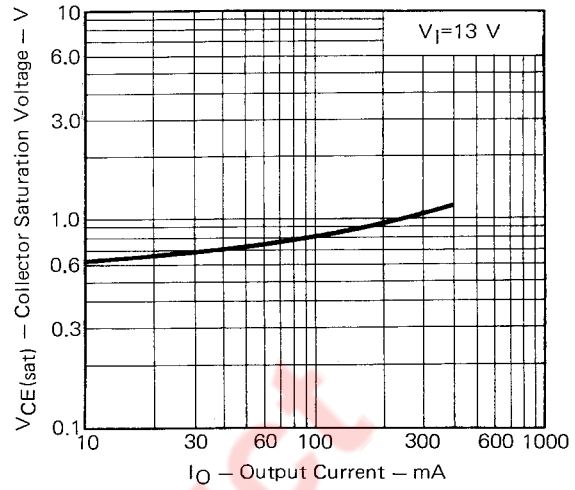


TYPICAL CHARACTERISTICS ($T_a=25^\circ\text{C}$)

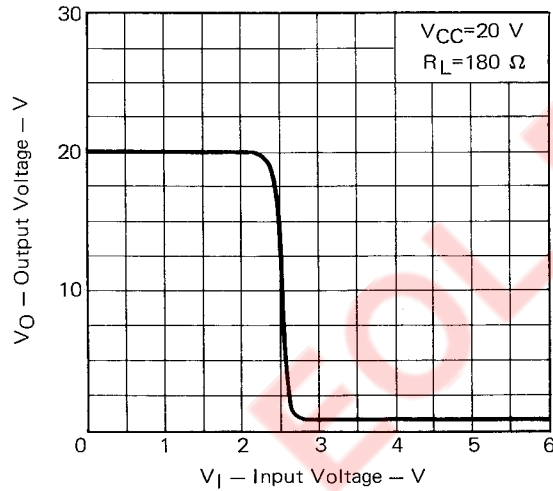
DC CURRENT GAIN vs. OUTPUT CURRENT



COLLECTOR SATURATION VOLTAGE vs. OUTPUT CURRENT



OUTPUT VOLTAGE vs. INPUT VOLTAGE



V_O - V_I TEST CIRCUIT

